Usability of Online Health Information for People with Disabilities

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Abstract: Current issues around the usability of online health information for people with disabilities are to be presented and discussed. This includes a review of the current literature relevant to this area, a review of the current methodology for assessing Web usability, and a proposed model for addressing these issues to increase the access to online health information by people with disabilities, in particular for those with cognitive impairments. Available preliminary data will also be presented.

There are now estimated to be 49.7 million people with some form of disability in the US (1). Of these, 14 million are aged 65 and over (equivalent to 42% of this age group). There is also the potential for the disabled population to grow significantly as the baby boom population continues to age. A digital divide exists with only 25% of persons with disabilities owning a computer and only 10% have Internet access. People with disabilities are less likely than people without disabilities to be online (43% v. 57%), and are less likely to be online from work (16% v. 30%) because far fewer are working (2). Paradoxically, the Internet is having a much more positive impact on the lives of adults with disabilities who can access the Internet than those without disabilities. A number of publications (1, 3) also suggest that people with disabilities are more likely to have health issues (early death, chronic conditions, preventable secondary conditions) and it is therefore more critical to identify and address barriers to access to health information that impact this group. For these reasons we have chosen to focus on eHealth Web sites in our studies. Since the arrival of the Web in 1994, there has been an increasing amount of attention to Web accessibility (for people with disabilities) (4) as well as Web usability by the general population (5). However, there is a paucity of published usability studies evaluating Web sites by observing individuals with disabilities.

The Disability Informatics Group (DIG) at the Oregon Institute on Disability & Development (OIDD) is studying the usability of Web sites by people across a range of disability areas, i.e., sensory, mobility and cognitive. Web usability goes beyond the simpler concept of Web accessibility. Accessibility simply determines whether a site is navigable by individuals with restrictions or limitations on their interface with the computer. Usability focuses on the ability of the user to perform the functions and tasks facilitated on the site.

Most Web Accessibility initiatives and guidelines have focused their requirements and recommendations in the area of sensory disabilities, i.e., users with vision and hearing impairments. But there is also a need for improved understanding of the difficulties individuals with cognitive disabilities encounter when attempting to use the Internet.

Individuals with cognitive disabilities have difficulty using the Internet even after they have gained physical access. Internet access is important because it provides resources and information, as well as opportunities for socialization and support. There have been few published research studies identifying and assessing the Web usability issues for this population and how to remediate them.

Our initial studies employ contextual interviews, field observations, user questionnaires and focus groups of individuals with cognitive disabilities, and their direct support or caregivers. The goal is to discern the online barriers encountered, the reasons for accessing or not accessing online services, and the possible misperceptions about the benefits and caveats of the Internet. This information will be used to guide later studies to investigate the usability of a selection of eHealth Web sites, and to develop and implement a customized protocol analysis that monitors and tabulates errors made by a person with cognitive impairment while accessing the Internet.

Our long-term goal is to define the usability issues for individuals who are cognitively impaired and to develop specific Web usability guidelines. These recommendations for Web development will hopefully create a more universally accessible and usable environment that is more inclusive of people with cognitive disabilities.

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